

Legal Issues in Czech Cartography in Relation to the International Cooperation

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Abstract. The aim of the activities of many professional societies and initiatives of individuals in the field of cartography and geographic information systems (GIS) is to clarify the issue of copyright law. There was realized a research focused on the legislative framework for the field of cartography and GIS in the Czech Republic with regard to the international cooperation. Also there were defined non-legislative aspects dealing with legal issues such as historical or ethical issues. Copyright protection in the Czech Republic is generally on a very high level, but the area of cartography and geoinformatics is not sufficiently detailed and addressed in the Czech legislation. This has resulted in different interpretations of laws and worse enforcement rights of the author. Similar approaches are in the countries of the European Union and in the countries where it the Berne treaty has been ratified. In the work there are also included case studies. These cases relate to the use of cartographic products and the geographic information system in the comparison with current legislation. They are commented where there are conflicts with copyright law or where are violated only a matter of ethical-moral principles or socio-cultural rules. Discussion suggests concrete ways to solve certain problems and can become as an inspiration for legislative adjustments to existing copyright laws. Cartography and Geoinformatics is developing very quickly, on the basis of new needs and new knowledge as well as to the advent of new digital and information technology. To ensure the inviolable protection of copyright works in printed or digital form is basically impossible. Therefore, rather than a restriction, on the future applicability and enforcement of copyrights of geoinformatic and cartographic products should have the status and attitudes across society.

Keywords: copyright, cartography, geoinformatics, legal protection

1. Introduction

Beginning of the 21st century is in the cultural-historical perspective called as the period of information society. In today's world information are very important. Owners of information, that may represent scientific discoveries, such as specific application of cartographic methods or new technological approach, they could hardly rejoice from their discoveries in the case that they won't be distributed. But it would be sad if that happened without a well-known author of the discovery, philosophical thought or even a computer program with which we work every day.

To avoid such situations there was established author's law, called also as copyright. This right belongs to everybody who something created, invented or devised and subsequently published it. The owner of such rights may be individual, group of people, company, country or other groupings. Unfortunately there are those who violate the ethics of author's law and use foreign issue for their own work without citation. In these cases, legislation aims to protect author's law. This work is focused on the issue of copyright in the field of geographic information systems and cartography with regard to the situation on the Czech Republic.

2. History

In historical periods, from which can be found written documents, there is no mention about copyright. Until the ancient, authors were rewarded for their work only by honor gifts from their patrons. The first official mentions of copyright law have been preserved from medieval times – at that time was the so-called privileges that are granted by the sovereign. The first mention of copyright in cartography in the Czech Republic can be found in 1561, when Helwig, creator of Helwig's map of Silesia, during the audience with Emperor Ferdinand I obtained "Prague Castle imprimatur" – permission to print with definition, that the illegal copies will be confiscated and there will be a fine for such treatment with a map of ten pounds of gold, while the fine was split equally between the author and Sovereign (Drápela et al., 2010).

In 1709 in England there was published the first full copyright "Statute of Anne - Queen Anne's Act" (Tallmo, 2010).

Anno Octavo

Annæ Reginae.

An Act for the Encouragement of Learning, by Vesting the Copies of Printed Books in the Authors or Purchasers of such Copies, during the Times therein mentioned.



Whereas Printers, Bookellers, and other Persons have of late frequently taken the Liberty of Printing, Reprinting, and Publishing, or causing to be Printed, Reprinted, and Published Books, and other Writings, without the Consent of the Authors or Proprietors of such Books and Writings, to their very great Detriment, and too often to the Ruin of them and their Families: For Preventing therefore such Practices for the future, and for the Encouragement of Learned Men to Compose and Write useful Books: May it please Your Majesty, that it may be Enacted, and be it Enacted by the Queens most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons in this present Parliament Assembled, and by the Authority of the same, That from and after the Tenth Day of April, One thousand seven hundred and ten, the Author of any Book or Books already Printed, who hath not Transferred to any other the Copy or Copies of such Book or Books, Share or Shares thereof, or the Bookeller or Bookellers, Printer or Printers, or other Person or Persons, who hath or have Purchased or Acquired the Copy or Copies of any Book or Books, in order to Print or Reprint the same, shall have the sole Right and Liberty of Printing such Book and Books for the Term of One and twenty Years, to Commence from the said Tenth Day of April, and no longer; and that the Author of any Book or Books already Composed and not Printed and Published, or that shall hereafter be Composed, and his Assignee or Assigns, shall have the sole Liberty of Printing and Reprinting such Book and Books for the Term of Four-

Figure 1. Facsimile of “Statute of Anne - Queen Anne’s Act” in British Library (Tallmo, 2010).

Copyright laws were created around the world, based on different concepts. The basic ones are natural-law principle, monism property and personal rights (eg work in the U.S.) and the dualism of rights (it was introduced also in the Czech legislation).

3. Copyright protection in the field of GIS and cartography in the Czech Republic

The issue of copyright law in the Czech Republic has been addressed by number of experts in the field of Geoinformatics and Cartography. In collective groups it is needed to call the association “Nemoforum” and the “Czech Association for Geoinformation”.

Despite the extensive academic discussion is the interpretation of copyright law in relation to geographic data, cartographic products, the use of map servers and geodatabases, is still author's law protection debatable. The problems are not addressed only by providers and producers of data and cartographic works, but even laymen in their daily lives, when they want to use maps for example as part of the promotional leaflet of the company.

An important part of copyright law is the definition that for each use of the work there is essentially required consent of the author. The law essentially requires the authorization to exercise the right to use the work (license) to another person. There are also possible contracts and licensing agreement with the fact that no such authorization is needed, in other cases possible use of the work is prescribed by law (Holcová, 2011). In the field of information technology there are very often used licenses. Description of the product licenses follows:

- **public domain**, and the GNU General Public License – this domain is allowed to intervene to distribute it even a modified form, and it basically without any limitations
- **cardware** – copyright belongs to author, it is implemented to the software (product), the spread is usually treated by a license agreement and the restrictions depends on the author
- **freeware** – copyright belongs to author, it is implemented to the software (product), somebody else must not interfere this software in any way, distribution is unlimited in its original form and authorized limits are realized only in exceptional circumstances
- **shareware** – copyright belongs to author, it is implemented to the software (product), somebody else must not interfere this software in any way, the spread is usually limited to licensing and distribution agreement and are usually implemented time limits functionality
- **commercial software licensing** – copyright belongs to author, it is implemented to the software (product), somebody else must not interfere this software in any way, distribution is strict-

ly prohibited and restrictions depending on the scope of the license of the product

- **OEM** – Original Equipment Manufacturer – software is distributed under a 'package', copyright belongs to author, it is implemented to the software (product), somebody else must not interfere in any way, distribution is strictly prohibited, the product is usually not restricted in any way
- **open source** – distribution is permitted even in a modified form (but may be further treated with another license agreement) restrictions and are usually not

Usually in non-technological field of geographic information systems and cartography are used the following licenses:

- **copyright** – the sign can be translated as “all rights reserved”, if the product wants to manipulate with this work, he should contact the author (or copyright owner) and obtain consent from him.
- **Creative Commons** – sign can be translated as “some rights reserved” - it is a supplement of classical copyright when the author through this license (sign) have contract with all potential users of the works, which gives them certain rights to the work and other reserves, some rights are already released its own licensing.

4. Practical protection of copyright in the field of cartography and GIS in the Czech Republic

From the group of all national map series (maps provided by the Czech Republic through the Czech Office for Surveying, Mapping and Cadastre) can be freely used only cadastral maps, which are not subject of copyright protection laws. Other state map works of the law are subject to the same protection as all other cartographic works.

Digital data and data layers that are provided by the Czech Republic (by the Czech Office for Surveying, Mapping and Cadastre) are all subject to copyright protection laws. Thus provided data therefore can not be freely used for production of other cartographic or GIS products without a license.

In the commercial sphere of cartography, we see the production of new cartographic works with reproductions of older works. In the field of old map works, the copyright is legally free after a period of 70 years since the death

of the author, in the case of multiple authors from the death of the last authors, in the case of anonymous works, and institutional from the date of publication of cartographic work. Such cartographic work can be further adjusted and distributed, in modified form even in the original.

In the field of newly issued cartographic works, copyright law protection extends to all printed works as well as digital products. The author can make a special copyright protection by using a special license agreement.

For digital products, and GIS software, the legal protection is primarily guided by specific legislative measures that include the protection of geodatabases, computer programs, websites, etc.

5. Examples of possible misuse of cartographic and GIS products and possibilities of legal use

5.1. Use of the map section

Perhaps the most common violations of copyright in the cartography is usage of the scanned map, when is used a section of this map, mostly in the leaflet or advertisement of a company. Map is usually accompanied by the arrow, circle, etc. indicating the domicile or establishment of the society that leaflet awards. Misuse of the section of the map may look like an illustration in Figure 2.



Figure 2. Example of possible use of cartographic work in breach of copyright law legislation on the advertising flyer. For an illustration the map from Road-atlas of Europe (2008) was used.

5.2. Modification of the original work

Another way to abuse the map may be the use of cartographic work for the creation of new cartographic work, just by the initial enrichment of thematic maps folder. An example of this type of abuse is shown in Figure 3.

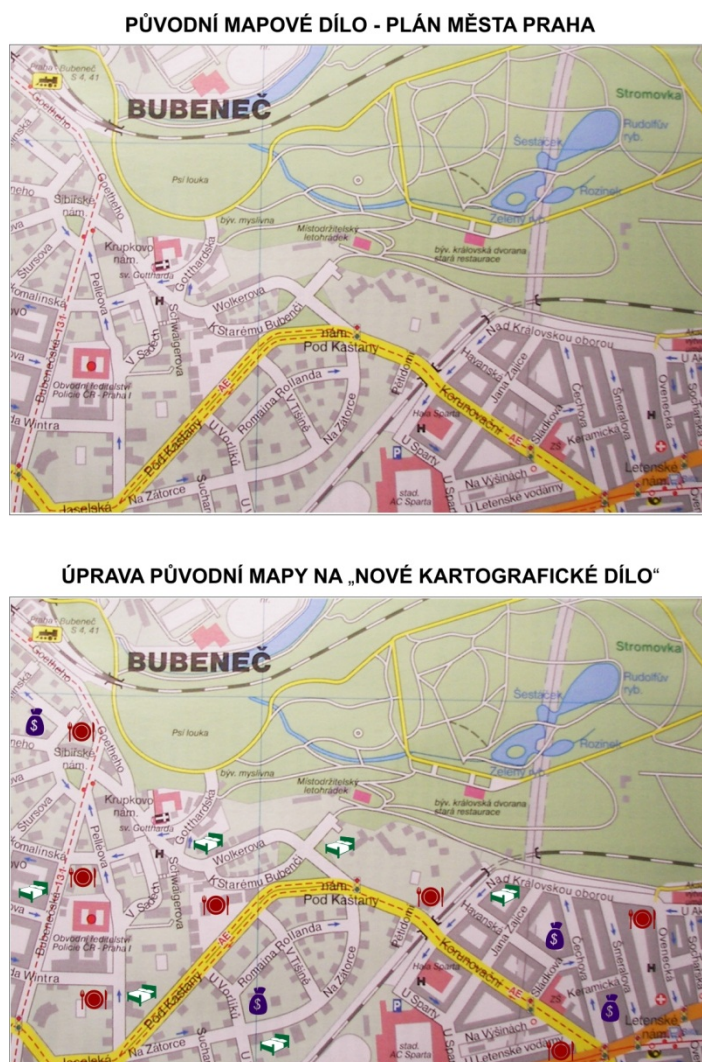


Figure 3 Example of possible use of cartographic work in breach of copyright law legislation on the example of the town plan. To illustrate the application was used Plán města Praha (2009).

5.3. Abuse of spatial layers and map keys

In addition to violations of copyright in cartography, which is used for initial mapping work in the same visual style and abuse is so obvious for the general public, there are also ways that are for the first look for non-specialists less recognizable. These include change of character keys with the original maps that can be seen on Figure 4. On Figure 5 there is an example of the abuse of map key.

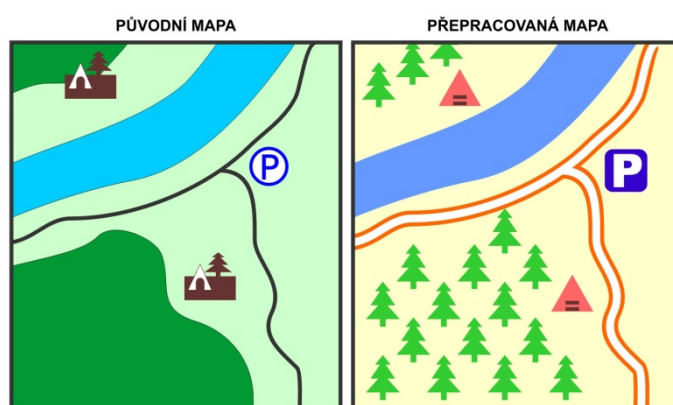


Figure 4. Example of possible use of cartographic work in breach of copyright law legislation: the change of map key

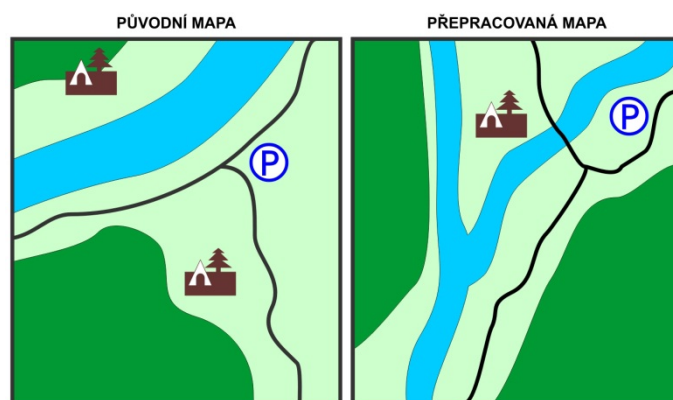


Figure 5. Example of possible use of cartographic work in breach of copyright law legislation: abuse of a map key

5.4. Re-processing works

Difficult to exploit a proven way of cartographic work is the complete overwork. The map is created by digitalization of original work and re-processing of map creation. Some elements contained in the original map are not in the new work another thematic elements may be new. An example of this procedure is illustrated in Figure 6.

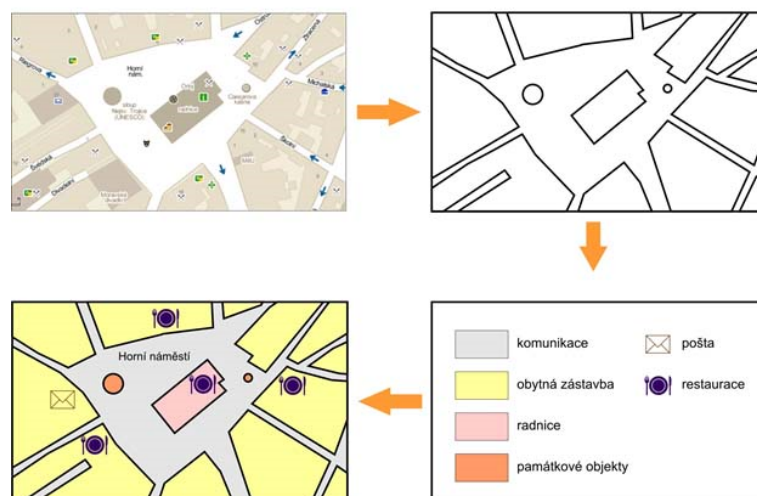


Figure 6. Example of possible use of cartographic work in breach of copyright law legislation: re-processing maps using digital (Vondráková 2011) To illustrate the map was used map from the server Mapy.cz (2011 b).

5.5. Abuse of satellite and aeroplane images

A similar case is the unauthorized use of aerial photographs (or other photo), from which the map is created. In this case the work is protected as each original work and using of this work without authorization is a violation of copyright laws. Example is on the Figure 7.

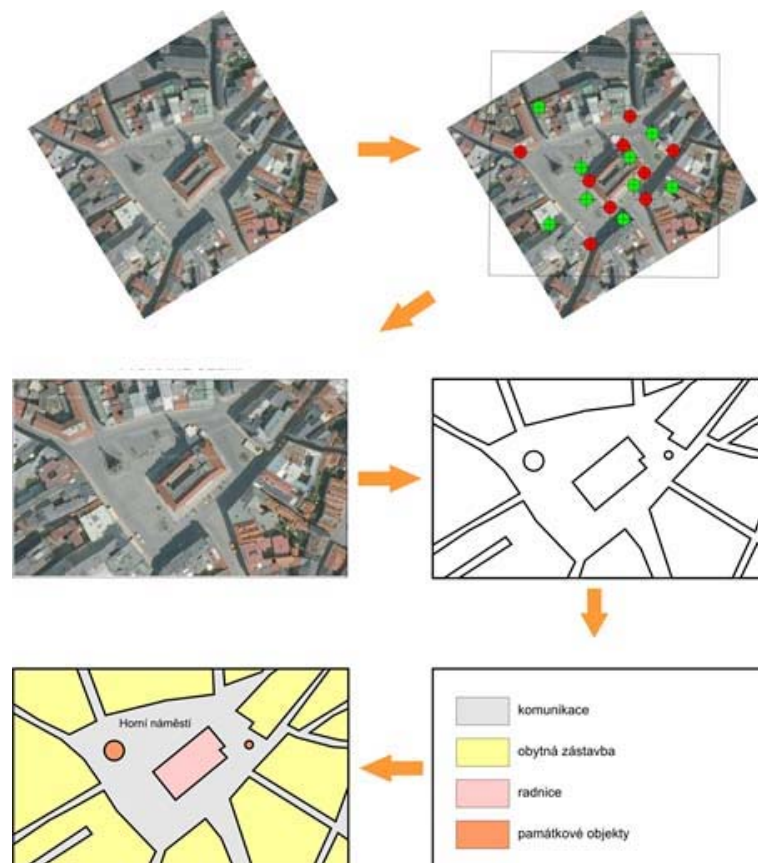


Figure 7. Example of possible use of cartographic work in breach of copyright law legislation: making maps from aerial photograph (Vondráková 2011). For illustration was used by the server photomap Mapy.cz (2011 b).

6. International cooperation

The most important international agreements on intellectual property rights are the Berne Convention and the Rome Convention for International Copyright and the Paris Convention, Madrid Agreement, the Nice Agreement, the Lisbon Agreement, the Madrid Protocol, Trademark Law Treaty, Patent Cooperation Treaty and the Convention on the Grant European Patents for industrial property rights (regulated by MIT, 2009). For international trade the TRIPS Agreement is very important. Also this agreement, however, can be applied to global projects such as GIS and cartography.

Although the level of copyright protection in developed countries is on the very similar level, a major impact to this issue might have regional specifics. It is therefore always consistently ensure compliance with all procedures and rules, depending on which country is the cartographic or geoinformatic work carried out.

7. Conclusion

At the beginning of the study there were set specific aims, that have been achieved during the realization of this work. First there was defined the theoretical issue that clarified the legal copyright protection with emphasis on historical aspects and status of solved problems abroad. This part was the most important part of a detailed study of literary sources, particularly foreign ones. Then there was defined the protection of copyright law in the field of GIS and cartography in the Czech Republic on the basis of current legislation, which placed great emphasis on the interpretation of copyright law experts on the legislation. This part was realized with the regard to the legislation that influences the situation on the international cooperation as well as on the cartographic and geoinformatic production in the Czech Republic.

The study was realized in cooperation with experts in law and in the fields of Geoinformatics and Cartography. The work includes specific illustrative cases in which there is a conflict with the legal protection of copyright works. Based on the definition of state matters and a search is performed in each case made a brief analysis of where there are gaps in the protection of copyright in the field of GIS and cartography.

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